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This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

47. (Previously Presented) Process for the production of a multi-layer electrode or electrode assembly, wherein a first layer is rolled onto a carrier and at least one additional function layer is produced by spraying on a powder.
48. (Previously Presented) Process as defined in claim 47, wherein the powder is sprayed on dry.
49. (Previously Presented) Process as defined in claim 47, wherein the roller application is brought about by means of one or more heated rollers.
50. (Previously Presented) Process as defined in claim 47, wherein the carrier is designed as a carrier mesh. (1) II
51. (Previously Presented) Process as defined in claim 47, wherein the carrier is produced from a metallically conductive material. (2)
52. (Previously Presented) Process as defined in claim 47, wherein the carrier is produced from high-grade steel. (3)

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53. (Previously Presented) Process as defined in claim 47, wherein the carrier is produced from silver-plated nickel.
54. (Previously Presented) Process as defined in claim 47, wherein the carrier is produced from titanium.
55. (Previously Presented) Process as defined in claim 47, wherein the carrier comprises an electrically non-conductive material, a conductive contact layer being or having been applied to said material.
56. (Previously Presented) Process as defined in claim 47, wherein a sprayed-on function layer is a reaction layer. (b7)(d)
57. (Previously Presented) Process as defined in claim 56, wherein a reaction layer is produced by spraying on a catalyst carrier material on a carbon basis.
58. (Previously Presented) Process as defined in claim 57, wherein platinum is used as catalyst material.
59. (Previously Presented) Process as defined in claim 47, wherein a sprayed-on function layer is a barrier layer. (b7)(d)
60. (Previously Presented) Process as defined in claim 59, wherein a mixture of carbon and a hydrophobing material is used for forming a barrier layer.
61. (Previously Presented) Process as defined in claim 60, wherein PTFE is used as hydrophobing material.

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62. (Previously Presented) Process as defined in claim 59, wherein the barrier layer has a surface density in the range of between 0.3 mg/cm² and 1 mg/cm².
63. (Previously Presented) Process as defined in claim 47, wherein a carrier structure is produced by rolling carbon powder onto a carrier.
64. (Previously Presented) Process as defined in claim 63, wherein the carbon powder is rolled on mixed with a binding agent.
65. (Previously Presented) Process as defined in claim 64, wherein a hydrophobing material is used as binding agent.
66. (Previously Presented) Process as defined in claim 64, wherein PTFE is used as binding agent.
67. (Previously Presented) Process as defined in claim 63, wherein a pore-forming agent is added to the material to be rolled on.
68. (Previously Presented) Process as defined in claim 63, wherein the composition of the material to be rolled on and/or the particle size therein and/or a contact pressure during the roller application is adjusted.
69. (Previously Presented) Process as defined in claim 63, wherein the carrier structure is connected to a membrane.

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70. (Previously Presented) Process as defined in claim 69, wherein a function layer is sprayed onto the carrier structure and/or onto the membrane prior to their connection.
71. (Previously Presented) Process as defined in claim 70, wherein prior to the connection between carrier structure and membrane a function layer is sprayed onto a connecting side of the membrane and an oppositely located side.
72. (Previously Presented) Process as defined in claim 71, wherein the respective spraying on is carried out simultaneously.
73. (Previously Presented) Process as defined in claim 70, wherein the function layer is a reaction layer.
74. (Previously Presented) Process as defined in claim 70, wherein the connection between carrier structure and membrane is brought about by roller application.
75. (Previously Presented) Process as defined in claim 69, wherein an additional carrier structure is connected to the carrier structure-membrane connection.
76. (Previously Presented) Process as defined in claim 75, wherein the additional carrier structure is rolled on.
77. (Previously Presented) Process as defined in claim 75, wherein the additional carrier structure is built up

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essentially in the same way as the carrier structure first connected to the membrane.

78. (Previously Presented) Process as defined in claim 75, wherein the additional carrier structure is produced essentially in the same way as the carrier structure first connected to the membrane.
79. (Previously Presented) Process as defined in claim 69, wherein an electrode-membrane unit for a fuel cell is formed.
80. (Previously Presented) Process as defined in claim 47, wherein the first layer is a rolled-on reaction layer.
81. (Previously Presented) Process as defined in claim 80, wherein a barrier layer is sprayed onto the rolled-on reaction layer.
82. (Previously Presented) Process as defined in claim 80, wherein a contact layer is sprayed onto an electrically non-conductive carrier.
83. (Previously Presented) Process as defined in claim 82, wherein essentially the same material as for the barrier layer is used for the contact layer.
84. (Previously Presented) Process as defined in claim 81, wherein the barrier layer and the contact layer are sprayed on at the same time.

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85. (Previously Presented) Process as defined in claim 80, wherein a membrane is arranged on an outer function layer.
86. (Currently Amended) Fuel cell electrode assembly produced according to the process comprising of claim 47 wherein:
producing a carrier structure is produced during the rolling step by rolling carbon powder onto a carrier, said carrier being connected to a membrane, and
~~producing at least one additional function layer by spraying on a powder.~~
87. (Currently Amended) ~~Gaseous~~ A gaseous diffusion electrode produced according to the process of claim 47 comprising:
~~rolling a first layer onto a carrier and producing at least one additional functional layer by spraying on a powder.~~
88. (Currently Amended) ~~Oxygen-consuming~~ An oxygen-consuming electrode produced according to the process of claim 47 comprising:
~~rolling a first layer onto a carrier and producing at least one additional functional layer by spraying on a powder.~~
89. (Currently Amended) ~~Electrode~~ An electrode produced by the process of claim 47 having a catalytically active reaction layer, wherein a barrier layer produced by means of a sprayed on powder is arranged on the reaction layer.

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90. (Previously Presented) Electrode as defined in claim 89, wherein the barrier layer is formed by a mixture of carbon and a hydrophobing material.
91. (Previously Presented) Electrode as defined in claim 90, wherein the hydrophobing material is PTFE.
92. (Previously Presented) Electrode as defined in claim 89, wherein the barrier layer has a surface density in the range of between 0.4 mg/cm² and 0.8 mg/cm².